

Class 6 Underground Injection Control (UIC) Program Description

1. Program Scope, Structure, Coverage and Process

The Program Description has been prepared by the West Virginia Department of Environmental Protection (WVDEP) Division of Water and Waste Management (DWWM) in accordance with the requirements of 40 Code of Federal Regulations (CFR) §145, Section 1421 Of Safe Drinking Water Act (SDWA) related to narrative description of state permit program. EPA finalized minimum federal requirements under the SDWA for underground injection of Carbon Dioxide (CO₂) establishing a new class of injection Wells, Class 6 on December 10, 2010. In this submission, WVDEP demonstrates that the State of West Virginia has the personnel and authority to administer a Class 6 carbon capture and sequestration UIC Program that meets and/or exceeds United States Environmental Protection Agency (US EPA) requirements.

On December 9, 1983, the EPA approved West Virginia's application for primary enforcement responsibility (primacy) (1) under Section 1422 of the Safe Drinking Water Act (SDWA) for Classes 1, 3, 4, and 5 injection wells and (2) under Section 1425 of the SDWA for Class 2 injection wells.

Currently West Virginia has primacy over UIC Classes 1 through 5 and is hereby applying for primacy over Class 6 injection well for the capture and sequestration of Carbon Dioxide (CO₂). Class 1 and Class 5 (non-mining) injection Wells are overseen by WVDEP DWWM, Class 5 (mining) injection Wells are regulated by WVDEP Division of Mining and Reclamation (DMR), Class 2 is regulated by WVDEP Office of Oil and Gas (OOG) and Class 3 Wells is regulated by WVDEP OOG. Upon approval of primacy for Class 6 wells, DWWM will have jurisdiction over the Class 6 UIC Program and the authority to issue Class 6 permits and administer and implement the Class 6 Program.

West Virginia's Statute of Environmental Resources Chapter 22 Articles 11 and 12, authorize an array of rules providing detailed guidelines for permitting, inspection and enforcement of all 6 UIC Well Classes. On April 19, 2022, the Legislature of West Virginia amended the Code of West Virginia Chapter 22 to include Articles 11A – Carbon Dioxide Sequestration Pilot Program and 11B - Underground Carbon Dioxide Sequestration and Storage. On March 9, 2022 West Virginia Code of State Rules 47CSR13 was revised to include Class 6 injection wells for the sequestration of CO₂.

This revised program description incorporates changes as required under federal regulations and is only an addendum to the current West Virginia 1422 UIC primacy authority.

2. Division of Water and Waste Management (DWWM)

Staff in DWWM have in-house expertise and access to contractors with skills in the technical and policy areas relevant to evaluating Class 6 permit applications, issuing Class 6 permits, and overseeing GS (Geological Sequestration) projects throughout their life span. The State plans to implement a team approach to permitting by dividing permit applications among staff with relevant areas of expertise. The table identifies the sources of this expertise.

Expertise Area	In-House	Contractor
Site characterization , e.g., geologists, hydrogeologists, and log analysts/experts to review site characterization data submitted during permitting and throughout the project duration.	✓	
Modeling , e.g., hydrogeologists and environmental/reservoir modelers to evaluate AoR delineation computational models during permitting and AoR reevaluations.		✓
Well construction and testing , e.g., well engineers, log analysts/experts, and geologists to review well construction information and operational reports on the performance of Class 6 wells and review/evaluate testing and monitoring reports.	✓	✓
Finance experts to review financial responsibility information during permitting and annual evaluations of financial instruments.	✓	
Risk analysts to evaluate emergency and remedial response scenario probabilities and remediation cost estimates.		✓
Policy/regulatory experts on the UIC Program and the Class 6 rule to evaluate compliance with Class 6 rule requirements.	✓	
Enforcement/compliance , e.g., staff who can initiate and pursue appropriate enforcement actions when permit or rule requirements are violated.	✓	
Inspectors to inspect wells or witness construction activities, workovers, and/or mechanical integrity tests.	✓	
Environmental justice experts to evaluate the Environmental Justice impact report, ensuring that the report is thorough, contextualized, and agrees with the demographic and environmental data from the EPA-developed EJSCREEN tool.	✓	

DWWM is responsible for ensuring that all appropriate UIC facilities hold a valid permit from WVDEP prior to installing, establishing, constructing, modifying, operating, or closing said facilities within the State of WV. WVDEP has contracted with a software vendor who is customizing existing software to meet our needs for UIC Permits. WVDEP is working to include Class 6. Applications will be received and reviewed via E-permit software application. Upon completion of DWWM review, the permit will be transmitted via Geologic Sequestration Data Tool (GSDT) to EPA.

DWWM Office of Environmental Enforcement (OEE) performs inspections and sampling to determine the compliance status of facilities permitted by the DWWM as well as enforcement duties and complaint response.

Office of Legal Services (OLS) within the WVDEP acts as in-house counsel to perform all legal services for the DWWM, including, but not limited to, representing the Secretary, Directors, or any Office thereof in any administrative proceedings or any proceeding in any state or federal court. To ensure adequate legal representation, the 1995 Legislature authorized the WVDEP to employ its own legal counsel for environmental matters rather than using the Attorney General's Office (W. Va. Code §22-1-6(d)(8)).

Environmental Quality Board (EQB) is a quasi-judicial Board of review responsible for hearing appeals regarding the issuance or denial of permits, permit conditions, or enforcement decisions rendered by the DWWM-WVDEP. The EQB has appellate review authority for the State's UIC permits, as well as other regulatory programs. The EQB consists of five members and a staff that includes a clerk, comptroller, and legal counsel. Due to its appellate role in the State's NPDES program, members of the EQB must meet the conflict-of-interest requirements of 40 CFR §123.25(c). See W.Va. Code §22B-1-11.

Coordination Between Agencies

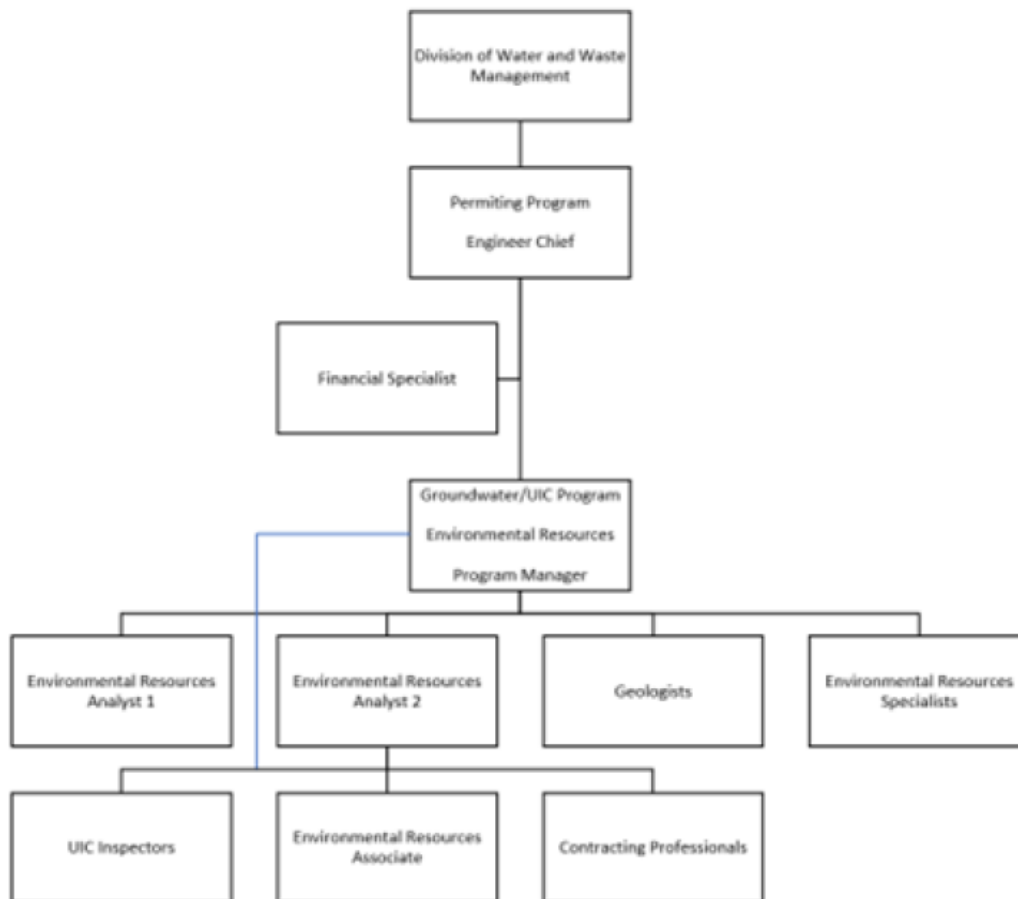
West Virginia Geological and Economic Survey (WVGES)

WVGES will provide information on the geology of the State to WVDEP DWWM. Also, WVGES will conduct a review of all sequestration permit applications and modifications.

The WV Department OF Health and Human Resources (WVDHHR) Bureau of Public Health (BPH)

The WVDHHR BPH is consulted in the permit drafting process to assess the possible effects to public health which may occur if injected fluids were to enter an underground source of drinking water. The WVDHHR is the State Agency which has the responsibility for making determinations as to the suitability of water for human consumption and of what constitutes endangerment of the health of the public. WVDHHR implements the Source Water Protection Program, under which Drinking Water Utilities benefit from the work performed by the UIC Programs. Local and regional health departments permit the installation of on-site sewage disposal systems and the drilling of drinking water wells.

DWWM Organization Chart



Personnel

There are nine (9) positions on the DWWM Groundwater/UIC Program, and all employees contribute to the operations of the UIC Program, thanks to cross-training. The group is led by a program manager and one new position has been added. The new position has been classified by the Department of Personnel as an Environmental Resources Analyst and will be devoted to Class 1 and Class 6 program development and implementation. That position has been filled by a Geologist who holds a master's degree. It should be noted that the Team has other duties, in addition to UIC.

(2) Environmental Resources (ER) Specialist 3 – Assigned Full Time to Field Duties

(1) ER Specialist 3 - Permit Writer – UIC

(2) Geologist 3 - Permit Writers and Rule Authorizations

(1) Geologist 2 – Reviewer - Groundwater Protection Plans and serves as Karst Specialist

(1) ER Associate - UIC Coordinator

(1) ER Analyst #1- Automation Development

(1) ER Analyst #2 – UIC Class 1 and 6 Team Lead

(1) Program Manager – UIC Permit Writer and Manager of Groundwater Program

The Geologists and Analyst #1 review Groundwater Protection Plans, oversee Groundwater Remediation, process Dust Suppressant approval requests, and track monitoring for facilities under the Groundwater Quality Variance Rules, among other duties. The team is responsible for receiving reports from parties it supports financially such as the US Geological Survey, the state's Pesticides Regulatory Program, and others. The ER Associate works with Monitoring Well Driller Certifications, follows up on inspections, and collects fees for UIC permits and for the Groundwater Fund. The field staff visit any facility that has the potential to contaminate groundwater but prioritize UIC sites.

One of the field staff is responsible for overseeing the Monitoring Well program, which includes site visits to UIC and non-UIC facilities to verify the condition, location and on-going need for monitoring Wells to remain in place. Sixty days from the date the Well is no longer used for its reported purpose, proper abandonment is required. A follow up report of the closure must be made by a certified driller.

The second field staffer is responsible for the inspection strategy. There are two full time field staff responsible for overseeing the 55 counties in our state (for Class 1 and 5 UIC wells). UIC is the priority and, until recently, the strategy has been focused on Class 5 Wells. The plan gives attention to all counties with the goal of visiting each county twice per year. The strategy has been revised to address Class 1, 4, and 6 Well types and to explain the roles of staff members dedicated to compliance of these Wells.

In addition to program development, ER Analyst #2's duties include site visits related to Class 1 and 6 Wells and assigning inspection follow-up needs to the ER Associate. Also, should specific items need to be checked at a Class 1 or 6 Well site, the Analyst may assign the visit to an ERS 3 field staff member.

The Team does not have its own Financial Specialist, so the Engineer Chief of Permitting has assigned his Administrative Support Assistant to review Financial Assurance Documents.

Program Costs and Funding Sources

DWWM estimates that running the Class 6 Program will cost approximately \$250,000 in the first year after obtaining primacy and approximately \$800,000 in the following year with annual adjustments thereafter. A majority of the costs of establishing and running the program are associated with hiring 3-4 staff members (permit writers and field staff).

DWWM's UIC Program is supported from permit and groundwater protection fees, along with grants from the EPA.

Grants – DWWM participates in the US EPA UIC Grant Program. The current year's grant totals \$210,667.00 with the federal share being \$158,000.00 and the state share being \$52,667.00. Half of these goes to DWWM and half to the Office of Oil & Gas. So, the federal amount for DWWM is \$79,000 and the state match is \$26,333.50.

Permit Application Fees are authorized by 47 CSR 9 and follow a formula based on three criteria: the UIC Well subtype, daily injectate volume, and the treatment factor, which is based on the concept of the cleaner the injectate, the lower the fee rate.

Annual Permit Fees are calculated by multiplying the application fee by .333. Annual permit fees are due on the anniversary date of the initial permit issuance. Class 1 fees are set at a standard annual rate and Class 6 fees are planned to be at a fixed annual rate as well.

- DWWM brought in \$75,123.12 (includes both UIC Annual fees and UIC GW Protection Fees) during the period October 1, 2021 through September 30, 2022.

- \$34,475.00 (Permit applications - renewals and new apps) labeled WV UIC Permit Application. Groundwater Protection Fees are authorized by 47 CSR 55. The Rule fulfills the directive for establishing the Groundwater Fund, according to state law 22-12. UIC Permits are charged a \$15.00 Groundwater Protection Fee each year. A single invoice is used to assess the annual permit fee and the groundwater fee.

A portion of the collected fees is allocated to the Groundwater Team. Due to cross-training and assignment of tasks across the various duties assigned to the Team, funding for UIC v. other duties is not broken down beyond this point. Note should be taken of the fact that research is done by outside entities, such as the USGS, and a large portion of the funding goes to research.

Per WV Code 22-11B, fees for Class 6 wells include application fees that will be determined and charged per ton of injected carbon dioxide. Also, per 22-11B, operation fees are to be charged in an amount set by legislative rule. The amount shall be based on the contribution of the storage facility and the source of the carbon dioxide to the energy and agriculture production economy of West Virginia and the secretary's anticipated expenses associated with the long-term monitoring and management of closed storage facilities. This fee shall be deposited in the Carbon Dioxide Storage Facility Trust Fund.

Applicants agree, by Statement of Billing (SFB), to pay Public Notice fees charged by the newspaper. DWWM prepares the Public Notice document but the applicant will pay the newspaper fee.

3. Permitting, Administrative and Judicial Review Procedures

This section outlines some of the major activities and procedures performed by the WV UIC Program.

Permitting Procedures:

The state's Class 6 Program requires all owners or operators seeking to inject carbon dioxide

for the purpose of geologic sequestration to obtain a Class 6 permit to construct or convert a well and gain approval to operate prior to commencing injection activities. Class 6 permit applications will be reviewed by staff of DWWM and issued in accordance with WV CSR § 47-13-13.

Administrative Review:

The completeness of the permit application includes: The application is reviewed to check if it contains all information required by applicable State regulations at WV CSR 47-13-14.10.c and Federal regulations at 40 CFR 124.3. The application is read, verified and deficiencies are noted.

Technical Evaluation:

The DWWM will carefully review information submitted for compliance with Class 6 Rule requirements and confirm that USDWs are not endangered. The permit application consists of the following parts which are reviewed by a technical or financial specialist.

- UIC Class 6 permit application (47CSR13.13.8.),
- Minimum criteria for siting, including demonstration of suitable geology including modeling and engineering concerns. (47CSR13.13.2.) WVGES will consult with DWWM about any seismic concerns.
- Area of review delineation and corrective action plan (47CSR13.14.9.),
- Injection well construction and operation specifications (47CSR.13.3. and §13.6. a.),
- Documentation of logs, samples and required testing (47CSR13.13.5.),
- Demonstration of mechanical integrity (47CSR13.6.2.),
- A testing and monitoring plan (47CSR13.6. b.),
- An injection well-plugging plan (47CSR.13.4.),
- A post-injection site care and closure plan (PISC) (47CSR.13.9.),
- An emergency and remedial response plan (47CSR13.13.7.)
- A groundwater protection plan (GPP) (47CSR58.4.11.)
- If applicable, the Supplemental Report for Injection depth waivers (47CSR13.14.8. d.1.)
- Financial responsibility (47CSR13.14.7. g.)

Owners or operators applying for a Class 6 permit must also submit a GPP concurrent with the Permit application. The GPP must contain the contents specified in 47CSR58 §4.11. All sources of potential pollution must be identified, and a plan must be developed to prevent pollution.

In addition to this, technical review may incorporate information from sources such as: the most up-to-date science and findings available from peer reviewed public literature; data and information presented at symposiums or conferences; procedures or recommended practices from the US EPA, qualified national laboratories, or published standards; and the most up-to-date versions of EPA-published guidance documents.

Technical evaluations involve the input of all members of the permit application review team and the applicant/owner or operator as needed. This approach ensures that each aspect of the project is

managed appropriately and with consideration to site-specific aspects of the project to ensure USDW protection from endangerment.

Technical review of the permit application will determine if applicants need to provide additional evaluation data or monitoring plans. Evaluation data that is not required in the regulations but may be required prior to permit approval could include evaluation methods such as magnetic drone surveys to quantify any mis-located or unpermitted wells, geophysical data to support geologic interpretation, groundwater information to support hydrogeological interpretation, or other methods deemed necessary by the Director.

Additional monitoring plans may also be required by the Director to monitor seismicity, groundwater, reservoir pressures or plume extent, or any other plans deemed necessary based on a site-specific technical evaluation.

The DWWM will require the owner or operator to conduct an environmental justice (EJ) review and submit a report as part of the application process. An EJ review will be encouraged in the pre-permitting process and required early in the formal permitting process. At a minimum, the state will require the report to consider relevant data and identify any portions of the AoR that encompass EJ areas.

When the application is submitted, DWWM staff will use the EPA-developed EJSCREEN tool to evaluate the location of the project as a pre-decisional tool. If this initial screening identifies the presence of an EJ community or other increased risk factors located within the AoR, the application will be re-evaluated, and the Public Information Office (PIO) will use the results to determine if an enhanced public comment period will be required for the application. An enhanced public comment period may extend the public comment period for the application, may require a more inclusive public participation process, including targeted public outreach and creation of better visual tools and approachable language, or may be supplemented in other ways recommended by the reviewers.

The DWWM will partner with The DEP Advocate's Office which will use EJ Screen tool, developed by EPA. If any portion in the AoR is in disadvantaged communities, compare maps of AoR to maps of known disadvantaged communities and facilities that may adversely affect those communities. If the EJ analysis indicated that the proposed site may be near disadvantaged communities that are also exposed to environmental risks, DWWM staff will confirm that any appropriate mitigation measures (e.g., additional monitoring) are included in the Class 6 permit.

Draft Permit and Public Participation:

Once an application is administratively and technically complete, the Director will tentatively determine whether to prepare a draft permit or deny the application. If the Director decides to prepare a Draft permit, it will consist of the main body of the permit along with attachments according to requirements of 47CSR13 14.32 and fact sheet according to requirements of 47CSR13 14.31.

Once the draft permit and fact sheet are prepared, the permit writer submits them to the supervisor for review. The supervisor makes any necessary changes. The public notice is prepared by the UIC staff and sent to the Public Information Officer for approval and then sent to a newspaper that is local to the project location area. It is also published on the Department's website and sent out on ListServ which is an electronic notice to persons who have asked for Notification. The public notice period is for thirty (30) days, and a public hearing is held in case of significant degree of public interest with an additional ten (10) day comment period after hearing. A copy of the draft permit, attachments and fact sheet are available to the public at the time of public notice and sent to the Applicant, the UIC Inspector and anyone who requested a copy during the notice period or public hearing.

Final Permit Decision:

Before the final permit is issued, all comments received from the applicant, EPA, other agencies, and the public are addressed and mailed to all commenters. Based on public comment, the permit is revised as appropriate. If these revisions do not need further public participation, the Permit is finalized and issued. An addendum to the fact sheet showing all the changes to the draft permit and fact sheet is prepared and issued with the final permit. The agency will also issue a response to all relevant public comments received.

Comments could have a major impact on a draft permit and could lead to Revisions or to denials.

If the final permit decision is to deny, suspend, revoke, modify, or terminate a permit, the Director must provide the reasons thereof in written notification to the applicant. This notification will also include reference to the procedures for appealing the final permit decision.

DWWM will maintain a Public Participation File and make the file available to the Public.

Public availability of information relating to facility permits is governed by the provisions of W. Va. Code §29B-1-1 et seq.

Following well drilling/conversion and completion activities, the permit applicant will submit information that the agency will consider in determining whether to approve operation of the injection well. If the information provided pursuant to 47CSR13 13.8.c warrants, the agency will authorize the applicant to inject carbon dioxide.

The operator is required to submit monitoring data and reports according to 47CSR13 13.5 and 47CSR13 13.6. After the injection ceases, the operator shall plug their well(s) in accordance with 47CSR13 13.4.b and after proper notice and in accordance with 47CSR13 13.4 and 47CSR13 14.7.f. Finally, a Site Closure report will be submitted to WVDEP as required in 47CSR13 13.9.f.

Upon cessation of injection, owners and/or operators of a Class 6 well must either submit an amended post-injection site care and site closure plan or demonstrate to the Director through monitoring data and modeling results that no amendment to the plan is needed. Any amendments to the post-injection site care and site closure plan must be approved by the Director, be

incorporated into the permit, and are subject to the permit modification requirements at 47CSR13 14.18 and 47CSR13 14.20 as appropriate. Following the cessation of injection, the owner or operator shall continue to conduct monitoring as specified in the Director-approved post-injection site care and site closure plan for at least 50 years (47CSR13 13.9.b.1) or for the duration of the alternative timeframe approved by the Director pursuant to requirements in 47CSR13 13.9.c., unless he/she makes a demonstration under subsection 47CSR13 13.9.b.2.. The monitoring must continue until the geologic sequestration project no longer poses an endangerment to USDWs and the demonstration under subsection 47CSR13 13.9.b.2. is submitted and approved by the Director. Finally, the owner or operator must publish a notice of intent of site closure in accordance with 47CSR13 13.9.d. After the Director has authorized site closure, the owner or operator must plug all monitoring wells in accordance with 47CSR13 13.9.e. and must finally submit a site closure report in accordance with 47CSR13 13.9.f.

Administrative and Judicial Review of Permits:

Administrative proceedings and Civil Penalty Assessment of Class 6 Permits will take place in accordance with 47CSR01.

Judicial reviews of UIC permits would be conducted in accordance with 22-11B/47CSR13.

4. Permit, Permit Applications, Reporting and Manifest Forms

The Permit Application Form will be WV Class 6 Well Application Form (Permit Application Form), a draft of which is included in the Appendix 1. This form will be used both for the initial permit submitted as well as the permit renewal which shall occur at a frequency of five years.

Prior to approval of injection, a testing and monitoring plan must be approved by the Director, as required in 47CSR13 13.6.b. The requirements of this plan will be reported as follows:

1. The operator will report the analysis of the carbon dioxide stream required in 47CSR13 13.6.b.1 as a summary report with cover letter and appended analyses.
2. The operator will submit pressure, rate, and volume monitoring data required by 47CSR13 13.6.b.2 as an excel or comma-delineated sheet with a graphical presentation;
3. The operator will submit corrosion monitoring data as required by 47CSR13 13.6.b.3 as a report with a digital cover letter.
4. The operator will submit groundwater data for any monitored zones per 47CSR13 13.6.b.4 as a summary report with cover letter and appended analyses.
5. Prior to conducting an external or internal mechanical integrity test, casing inspection log, or pressure fall-off test as stipulated in the approved monitoring and testing plan and required under 47CSR13 13.6.b.5 and 6, the operator must first apply for a work permit using the Permit Application Form included in Appendix 1.

6. Other monitoring required in the approved testing and monitoring plan and required under 47CSR13 13.6.b.7-9 will be submitted as a summary report with cover letter and appended analyses and data.

Monitoring reports in accordance with the approved plan must be submitted semi-annually as prescribed in 47CSR13 13.6.c.1.A With certain reports including mechanical integrity test results submitted within 30 days of the test per 47CSR13 13.6.c.1.B; and with a report of any non-compliance submitted within 24 hours per 47CSR13 13.6.c.1.C.

Mechanical Integrity tests (MITs) are conducted frequently throughout the life of the well. When the Permit Application Form is submitted to the DWWM, staff will review the scope of work and may request scope revisions prior to issuing an approved work permit. Applicants are required to include in the permit application that the MIT will be witnessed by a DWWM Inspector and/or UIC Program Representative. Upon approval of the work permit by DWWM, the operator is required to contact the UIC Program and give 48 hours prior notice before beginning the MIT. When the MIT is scheduled such that a representative is available to witness, the operator may then conduct the proposed operation and upon completion submit a summary of the work conducted the Permit Application Form. This process for conducting an MIT is the standard procedure for Class 1, 2, 3, and 5 wells currently.

5. Compliance Tracking and Enforcement Program

Compliance Monitoring

Compliance monitoring will, at minimum, include on-site inspections conducted by the Inspectors of DWWM and review operating and monitoring reports submitted in compliance with construction, completion, operation, maintenance, and site closure regulatory requirements (47CSR13 13.13.6) Compliance monitoring will also ensure that all GS projects are performed according to approved plans and specifications and meet all permit and regulatory requirements. The state's compliance monitoring program includes the following activities:

- Review of plans and reports (e.g., well completion reports, test results, workover reports) submitted by permit applicants or owners or operators.
- Conduct site inspections to verify or witness construction, operation and testing/maintenance procedures. Site inspections will be conducted by DWWM Inspectors.
- Investigate complaints alleging improper construction, completion, operation or maintenance of a GS project.
- Perform compliance monitoring (e.g., reviewing monitoring, operating and maintenance data) to verify compliance with permit conditions, regulations and any other conditions or stipulations.
- Conduct annual inspections and compliance follow-up inspections of GS projects.

The DWWM shall submit to the EPA quarterly non-compliance reports as specified in 40 CFR § 144.8(a). Quarterly reports will be submitted in accordance with the following schedule.

- October, November, December – due January 30
- January, February, March – due April 30
- April, May, June – due July 30
- July, August, September – due October 30

Enforcement Procedures

Any person violating 47CSR13, any condition of a Class 6 permit, or any rule or order of the DWWM is subject to enforcement action. The agency is responsible for initiating, pursuing and resolving enforcement actions in accordance with 47CSR01.

Enforcement proceedings may result in modification, revocation or suspension of any permit issued under authority of the UIC Program.

The WVDEP/DWWM will handle all minor violations through informal means, such as correspondence between agency staff and the alleged violator. If initial correspondence does not result in the resolution of minor violations, a Notice of Violation (NOV) may be issued. If the violation(s) expands in size or scope, DWWM may issue a Compliance Order without a civil penalty. The final enforcement stage, typically reserved for non-compliance that is egregious or may endanger the USDW, will be the issuance of a Compliance Order in which a civil penalty is assessed. Issuance of NOVs, Compliance Orders, and Compliance Orders with civil penalties are entered and tracked through the database titled Application Extender, maintained by DEP staff.

If a Compliance Order with civil penalty is required, the state may seek civil penalties in accordance with 47CSR01.

CIVIL PENALTY MATRIX

Potential for Harm to Human Health or the Environment	Extent of Deviation from Requirement			
		Major	Moderate	Minor
	Major	\$8,000 - \$10,000	\$6,000 - \$8,000	\$5,000 - \$6,000
	Moderate	\$4,000 - \$5,000	\$3,000 - \$4,000	\$2,000 - \$3,000
	Minor	\$1,500 - \$2,000	\$1,000 - \$1,500	Up to \$1,000

6. Schedule for Issuing Class 6 Permits

The agency anticipates that up to 2 to 4 well permit applications may be submitted during the first two years after approval of the state Class 6 Program. The agency expects that reviewing Class 6 permit applications will require nine to twelve months per project following the date a complete permit application is submitted under proposed staffing levels and with full applicant cooperation.

7. State Priorities for Issuing Class 6 Permits

It is anticipated that during the first two years after approval of the state Class 6 program, at least 4 permits will be issued by DWWM. Priority in the application queue will be based primarily on the relative date of submittal and then weighted by application completeness and size and nature of the project.

8. Mechanical Integrity Testing Requirements

To evaluate the absence of significant leaks, owners or operators of Class 6 wells must, following an initial annulus pressure test, continuously monitor injection pressure, rate, injected volumes, pressure on the annulus between tubing and long-string casing, and annulus fluid volume, pursuant to 47CSR13 13.6.a.4.

Additionally, annulus pressure tests must occur on an annual basis and after performing any well workovers that involve unseating the tubing or packer, pursuant to 47CSR13 13.6.2.c.5.

At least once every 12 months, owners or operators must use an approved tracer survey or a temperature or noise log to determine the absence of significant fluid movement pursuant to 47CSR13 13.6.2.c.5.A.

The agency may require additional or alternative tests if the results presented by the owner or operator are not satisfactory to demonstrate mechanical integrity pursuant to 47CSR13 13.6.2.c.5.C.

Also, the agency may allow the use of a test to demonstrate mechanical integrity other than those described in 47CSR13 13.6.2 , with the written approval of the US EPA Administrator. To obtain approval, the agency must submit a written request to the US EPA Administrator that must set forth the proposed test and all technical data supporting its use. The agency expects to review the results of approximately 20 MITs from Class 6 well owners or operators each year.

9. Procedures to Notify Operators of the Requirement to Apply for and Obtain a Permit Class 1 and Class 5 Wells

WVDEP does not currently have any known Class 1 or Class 5 wells that inject carbon dioxide as a primary injection stream.

10. [Reserved] Class 2 ER Wells

The agency will evaluate information about Class 2 enhanced oil recovery wells (e.g., carbon dioxide injection and production data or information related to the other factors at 47-13-13.1.c) and identify whether any projects are approaching risk thresholds within four years of receiving Class 6 primacy in accordance with 40 CFR 145.23(f). DWWM will coordinate with OOG as needed to obtain the data needed for this review.

11. Injection Well Inventory

DWWM staff currently enter new well information into our agency database, ApplicationXtender (AppX). As modifications occur to wells during the operational lifetime of each well, the information contained in AppX is updated accordingly. Data queries are executed to export well inventories for all well class types, and Class 6 wells will be no exception.

12. Exempted Aquifers

The areal extent of an aquifer exemption for a Class 2 EOR/EGR well may be expanded for the exclusive purpose of Class 6 injection for geologic sequestration pursuant to 47CSR13 13.3.1.d. If such requests are received, the DWWM will evaluate the application to determine that the area of the proposed expansion is sufficiently large to contain the carbon dioxide plume and pressure front and was determined in a manner that is consistent with the AoR modeling required under 47CSR13 13.14.9.c and whether the request meets the criteria at 40 CFR 146.4. Following this evaluation and a determination that the proposed expansion of the areal extent of the aquifer exemption meets the requirements at 40 CFR 144.7(d) and 146.4, the agency will forward the request to the EPA Region 3. No designation of an expansion of the areal extent of a Class 2 ER aquifer exemption for GS injection will be final unless approved by the EPA Administrator as a revision.

Other than EPA approved aquifer exemption expansions or exemptions following 40 CFR 144.7(a)-(d), new aquifer exemptions shall not be issued for Class 6 injection wells.

13. Transboundary Notification and Documentation Procedures

Due to the potentially large AoRs associated with GS projects, interstate issues may need to be taken into account. Pursuant to 47CSR13 13.8.b, the Director shall notify, in writing, any States, Tribes, or Territories within the area of review of the Class 6 project based on information provided in 47CSR13 13.8.a.2 and 47CSR13 13.8.a.20 of this section of the permit application.

Permit applicants must provide a list of contacts for those states and tribes identified to be within the AoR of the Class 6 project pursuant to 47CSR13 13.8.a.2 and 47CSR13 13.8.a.20. Based on this information and a review of the extent of the AoR, the state will notify appropriate staff in affected jurisdictions in writing to provide information about the proposed project and invite them to provide input during the permit application review process or participate in/monitor the public participation process associated with the permit application. The state will document all input

received and the responses provided. This documentation will be made a part of the administrative record for the permit application.

14. Injection Depth Waivers

When an owner or operator submits a waiver of the Class 6 injection depth requirements, the Director will consult with all affected Public Water System Directors and the Regional Administrator after considering all the requirements persistent to 47CSR13 14.8.d.

15. Financial Responsibility

The state's regulation, at, 47CSR13 14.7.g requires owners or operators of Class 6 wells to demonstrate and maintain financial resources to perform all required corrective action, plug the injection well, conduct post injection site care and site closure, and perform any needed emergency and remedial response. Agency staff with financial expertise will review the cost estimates provided by applicants to verify that they are sufficient to cover these activities and evaluate the financial instruments the applicant proposes to use to verify that they qualify and are appropriate. Even after the financial instruments have been approved, the DWWM staff will continue these ongoing efforts to make sure the operator maintains financial responsibility:

- (1) update annual cost to account for inflation;
- (2) update cost following amendment of project plans; and
- (3) oversight of financial instruments to make sure they remain active, sufficient, and meet the criteria required pursuant to 47CSR13 14.7.g

16. Reports

The owner or operator is required to submit all required reports, submittals, and notifications under 47CSR13 13.6.c to both the DWWM and to EPA, in an electronic format acceptable to the EPA. In order to assure both the State, as the primacy authority, and EPA, as the oversight authority, have consistent data throughout program implementation, DWWM agrees to submit to EPA or allow EPA viewing access to all Class 6 reports, submittals, and notifications submitted to the State. DWWM will assist EPA in owner or operator compliance with 40 CFR § 146.9 1(e) by submitting to EPA or allowing EPA viewing access to all required reports, submittals, and notifications under Subpart H of part 146 through the Department's database in an electronic format approved by EPA.

Reports submitted to the DWWM shall be uploaded by the owner or operator to the Geologic Sequestration Data Tool (GSDT). The EPA has viewing authority of all reports submitted to the DWWM through the GSDT.